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DISEASES OF THE URETHRA, BLAD-
DER, UTERUS AND RECTUM—
DRY MEDICATION, DRY
TREATMENT.

BY
ELMER LEE, M.D.,
OF ST. LOUIS, MO.

*Read in the Section on Surgery and Anatomy at the Thirty-ninth An-
nual Meeting of the American Medical Association,
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A NEW METHOD OF TREATMENT OF
DISEASES OF THE URETHRA, BLAD-
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DRY MEDICATION, DRY
SYRINGE.

It is only the fact of defect, or lack of perfection, that permits of progress. Absolute perfection is not attainable. Evolution in medicine as in every other thing promises only progress. But it is a moderate forecast that asserts the certainty that diseases will be mainly conquered, life made more comfortable, and a man's life extended beyond the fixed limit of three-score years and ten. The industry of men everywhere enduring and endeavoring to discover means and methods of curing diseases of the race is great as it is noble and good. The probability is that, ere long, some great discoveries will flash out that will expedite progress. I bring my contribution, much or little, valuable or worthless. Perhaps it may help some other one to go a step further.

The urethra of the male is a passageway chiefly concerned in carrying urine from the bladder, having a length of some 23 cm. (8 or 9 inches) between the meatus and the bladder. The size of the urethra is 6 mm. ($\frac{1}{4}$ inch) in diameter, slightly less at the outer end, slightly more at the inner end. Mucous membrane lines the channel throughout, which is continuous with the inner coating of the bladder for urine and the kidney.

The diseases of the urethra are similar to the diseases of mucous membranes elsewhere in the body. Inflammation of the urethra may be produced by one of the following causes: 1. Repeated mechanical or chemical irritation; 2. Catching cold; 3. Toxic and miasmatic infection. There is an endless number of known and unknown septic poisons of which many, if not all, have a specific inflammatory action.

My paper is especially concerned at this time with a method of treatment of mucous membranes of canals and cavities accessible to surgical aid. The male urethra is the seat of frequent inflammatory disease, and infection is the common cause, and the diplococci or gonococci of gonorrhœa the most common cause. The treatment of the urethra for gonorrhœa and other inflammations concerns a vast number of persons.

The methods of treatment are numerous. It is to-day, in the light of science, not a question so much as to what remedy or drug is required to destroy the cocci and other bacteria, and which drug is a good disinfectant, and which an anæsthetic, but the prime question is, how to use the drugs with effect and without harm to the unfortunate patient.

I think it is a matter as to how, more than as to what, to use. My method of treatment of diseases of the urethra is as follows:

1. The employment of alkaloids, salts of alkaloids, glucosides and pure chemicals, in the dry state.

2. The active principles are in the form of granules or small masses mixed with pure cane sugar, and as soluble as the nature of the active agent will admit.

3. The placing of one or more granules at a dose, whether for purposes antiseptic, disinfectant,

anæsthetic, astringent, and so on, in the precise region of the disease, and leaving the medication just where it is deposited. As it melts and dissolves and mixes with the secretions the tract or region of tissue will be bathed as the substance finds its way over their surface.

4. The use of instruments adapted for the purpose of carrying the granules in.

The matter of the selection of the medication is in the hands of the surgeon to use that which he may. The form of the remedy is convenient, the dose is accurate, and the method of introducing it into the channel of the urethra, the bladder, the cavity and neck of the uterus and the rectum is clean, economical, elegant, effective and simple. The warmed and oiled instrument is carried down into the urethra until the end defines the inflamed patch, and this it does with accuracy, when the granules are deposited in the urethra and the instrument withdrawn. The size of the granule is such that only the slightest, if any, irritation is caused. There is absolutely no distress as is the case with bougies of gelatine and masses of medicated gelatine and cocoa butter, and so on. The strength of the substance of the granule will determine as to how many to use for one dose. A single granule of corrosive sublimate of 1 millig. ($\frac{1}{64}$ grain) is equivalent to a teaspoonful of a sublimate solution of 1:2000. Of granules of iodoform, iodol, hydro-naphthol, thallin sulphate and cocaine hydro-chlorate, as many may be deposited as may be needed in the judgment of the surgeon. The solubility of the granules *in situ* is considerably increased on account of the acid secretion of the mucous coat.

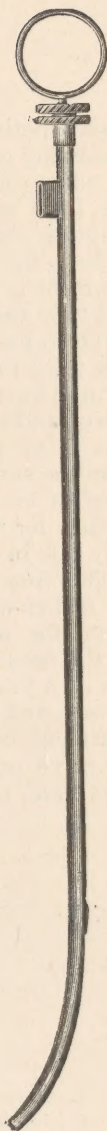
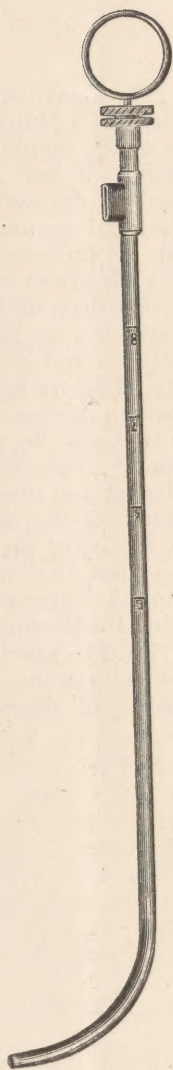
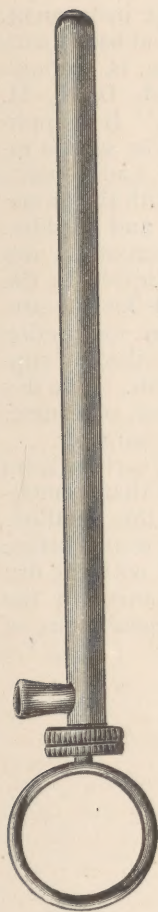
In the urethra the salts of alkaloids dissolve in three to six minutes, the alkaloids take a little longer, and the pure chemicals in three to six

minutes. The medication is in a form so small and even when mixed and dissolved in the acid secretion, is inconsiderable in volume, a condition which favors thorough medication, in that the whole substance is retained on the mucous surfaces and not expelled as it would be if it were of a solution injected, or of such bulk as would cause distress to the urethra and expulsive contraction in the uterus.

A few days before I left home, my neighbor, Dr. Steele, used the uterine douche and a solution of boric acid in the case of a patient, the object of which was to disinfect the cavity of the uterus of some petrifying *debris*. Some particle of substance was forced into a venous sinus thereby, partial collapse ensuing quickly, which was with extreme effort overcome. Dr. Steele said to me, "Would the *granules* of boric acid not have been equally efficient? I think they would. And would there have been the same risk to life? I think not."

The granules are made of the active principles and pure chemicals and contain absolutely no irritating material. The size of the granule is not to be more than 3 mm. ($\frac{1}{8}$ inch) in diameter, for obvious reasons, and will contain of substance 1 centigram ($\frac{1}{6}$ grain), 1 milligram ($\frac{1}{84}$ grain), and of a few substances $\frac{1}{2}$ milligram ($\frac{1}{120}$ of a grain). The alkametric granules of Frederick Stearns & Co., of Detroit, made chiefly of Merck's pure crystalline salts, are suitable for my method. Also, the dosimetric granules of Chanteaud, in such high favor in France. The granules of the Metric Granule Co., of Chicago, are especially suitable by reason of the uniformity of size of the granule.

I have devised three instruments, which I will presently exhibit to you, as well as my method



upon a patient. The short, straight instrument, consisting essentially of a plunger and barrel with its adaptation to a new application, is, through the kind suggestion of my friend, Dr. C. H. Hughes, christened a "dry syringe." It is applicable to the urethra and rectum. The second instrument is 25 cm. (10 inches) long, and consists of a tube and a flexible piston rod, with the proper curve to pass into the deep urethra and bladder. The third instrument is a modification of the dry syringe for the urethra, and is applicable to the uterus and cervix. The dry syringe for the urethra is for the patient to use under instruction from the surgeon and may be prescribed or supplied to his patient by the physician. The dry syringe for the bladder and uterus are, of course, only safe in the hands of the skilful surgeon.

The time since receiving my dry syringe from the maker was too short to do more than demonstrate the mechanical features of this method. At the next meeting I will bring the results before you of a year of clinical experience with the dry syringe and granules of pure substances in the treatment of diseases of mucous membranes of the pelvic organs.

316 North Ewing Avenue.

